REMARKS

I. Status of the Claims

Claims 1-12 are pending. Applicants amend claims 1 and 7 and cancel claim 6. Claim 1 is amended to include the limitations of claim 6. Claim 7 is amended to depend from claim 1. Upon entry of the amendment, claims 1-5 and 7-12 will remain for consideration.

II. Response to the Rejection under 35 U.S.C. § 103(a) based on Donaldson in view of Asanuma

Applicants note the rejection of claims 1-12 under 35 U.S.C. § 103(a) as being unpatentable over Donaldson (U.S. Pat. No. 3,392,156) in view of Asanuma (J. Pat. 04-239527).

Like Applicants, Donaldson copolymerizes ethylene with a vinyl trialkoxysilane. Unlike Applicants, Donaldson uses a free radical-initiated polymerization process. Donaldson states that "the catalysts employed in the process of this invention can be any ethylene polymerization catalyst suitable for use under the reaction conditions embodied herein" (column 3, lines 47-49); one skilled in the art would interpret this as any free radical catalyst. In fact, all of Donaldson's examples use free radical catalysts. Donaldson states (column 2, lines 53-54), "As is well known in the art, the catalyst may be designated as a free radical polymerization catalyst."

Nothing in Donaldson indicates that the particular Ziegler-Natta catalysts of Applicants' amended claim 1 would be suitable. Because Donaldson is silent about Ziegler-Natta catalysts, a skilled person must infer that Ziegler-Natta catalysts, including the particular subclass of Ziegler-Natta catalysts used in Applicants' claimed process, would not be effective. In sum, Donaldson alone provides insufficient motivation for a skilled person to substitute a Ziegler-Natta catalyst for a free-radical initiator for making an olefin-vinyl trialkoxysilane copolymer.

The Examiner recognizes that Donaldson alone is not enough, but he asserts that Asanuma supplies the missing teachings. Asanuma copolymerizes a vinylhydrosilane with ethanol and then treats the copolymer with a hydrosilation catalyst. Asanuma describes silanes generally and prefers hydrosilanes. However, because the subsequent reaction step in Asanuma requires a compound having an Si-H moiety, a skilled person would infer that a hydrosilane is needed for the earlier copolymerization with ethylene. Even a broad interpretation of Asanuma's silane component would not encompass the particular trialkoxysilanes of Applicants' amended claims. Nothing in Asanuma indicates that a vinyl trialkoxysilane can be used.

Additionally, Asanuma does not teach or suggest the catalyst used in Applicants' claimed process. Asanuma teaches a Ziegler-Natta catalyst but not one in which the transition metal has been reacted with a mixture of an organomagnesium compound and a silicon-containing compound. In fact, Asanuma uses no organomagnesium compound.

Thus, nothing would motivate a skilled person to modify Asanuma's teachings to use either a vinyl alkoxysilane monomer or an organomagnesium catalyst component. Moreover, as noted earlier, nothing in the art would motivate a skilled person to use a Ziegler-Natta catalyst in Donaldson's process because Donaldson only taught free radical initiators as suitable. Therefore, the references are not properly combinable, and any suggestion to combine them could only be based on hindsight reconstruction and Applicants' disclosure.

Actually, it was not even "obvious to try" Asanuma's Ziegler-Natta catalyst in Donaldson's process that calls for a free-radical initiator. Nor was it obvious to try using a trialkoxy vinylsilane in Asanuma's process that calls for a hydrosilane, and to include an organomagnesium compound in Asanuma's Ziegler-Natta catalyst when Asanuma taught none. However, even if it were "obvious to try" these modifications, that is not the correct standard of patentability; the references must make the claimed process obvious to do.

Even if the references were properly combinable, however, the combined teachings would not put a skilled person in possession of Applicants' now-claimed process or any obvious variation of it. Because neither reference teaches or suggests the organomagnesium compound of Applicants' catalyst, the combined reference teachings must also lack such a disclosure. The combined references provide no incentive to the skilled person to include the organomagnesium compound. In the absence of such a suggestion, the references fail to make Applicants' claimed process obvious. The Examiner should therefore reconsider and withdraw the Section 103(a) rejection.

III. Conclusion

In view of the remarks above, Applicants respectfully ask the Examiner to enter the amendment, withdraw the rejection, and pass the case to issue. Applicants invite the Examiner to telephone their attorney at (610) 359-2276 if he believes that a discussion of the application might be helpful.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first-class mail, with sufficient postage, in an envelope addressed to: Commissioner for Patents, P.O. Box. 1450, Alexandria, VA 22313-1450 on January 28, 2005.

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Respectfully submitted,

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